

**Survey of Radionuclide Use and Needs
by Recipients of DOE-BER Grants
April – May, 2002**

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Survey of Radionuclide Use and Needs by Recipients of DOE-BER Grants April – May, 2002

Survey sent to 38 recipients of DOE-BER grant

- **Response rate: 100%**
- **2 groups of investigators at same center sent combined responses**
- **Total independent responses: 35**

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1. Which radionuclides do you and your co-investigators use in your current BER supported research?

Which of these is produced in adequate quantities on site, in your institution?

2. For each isotope listed above, please indicate the frequency of use

(i.e. daily, 2-3 times/wk, once/wk, 2-3 times/mo, once/mo, 2-4 times/yr, etc)

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3. Please prioritize the radionuclides you use in decreasing order of

- A) Importance to your projects:
- B) Availability for routine use:

- Which of your currently utilized radionuclides would you use more often if it were more available?

5. What **other radionuclide(s)** would you use in your current projects if it (they) were available on a routine basis at a reasonable cost?

6. What **other radionuclide(s)** would you use in upcoming projects if it (they) were readily available at reasonable cost?

Radionuclides used in Current BER-supported Research (1-10 of 38)

Frequency of use

RN	#PIs	daily	2-3/wk	1/wk	2-3/mo	1/mo	2-6/yr	Made on site
Tc-99m	17	5	5	1	3	1	2	
I-125	17	3	3	4	2	1	4	
F-18	16	5	3	2	3	2	1	14
I-131	12	1	1	2	3	3	2	
In-111	11	3	1	1	1	2	3	
C-11	11	3	4	1	1	2	-	9
I-123	9	-	1	-	2	3	3	
Re-188	8	-	-	1	2	2	3	
Lu-177	7	-	1	-	2	1	3	3
Y-90	7	-	1	1	1	2	2	

Radionuclides in Current BER Research (11-21 of 38)

Frequency of use

RN	#PIs	daily	2-3/wk	1/wk	2-3/mo	1/mo	2-6/yr	Made on site
I-124	5	-	1	2	-	-	2	2
Cu-64	4	-	-	2	1	1	-	1
Bi-213	4	1	-	-	1	-	2	1
At-211	4	-	1	-	1	-	2	2
Ga-68	3	-	1	-	-	-	2	1
O-15	3	1	2	-	-	-	-	3
N-13	3	2	-	-	-	-	1	3
Br-76	3	-	-	1	-	1	1	1
C-14	3	-	-	1	-	-	2	
H-3	3	1	1	1	-	-	-	
P-32	3	1	-	-	1	-	1	

Radionuclides used in Current BER-supported Research (22-31 of 38)

Frequency of use

RN	#PIs	daily	2-3/wk	1/wk	2-3/mo	1/mo	2-6/yr	Made on site
Tc-94m	2	-	-	1	1	-	-	2
Pm-149	2	-	-	-	-	1	1	1
Br-77	2	-	-	1	-	-	1	1
Y-86	2	-	-	1	-	1	-	1
Ga-66	1	-	-	-	-	1	-	
Ga-67	1	-	-	-	-	-	1	1
Ge-68	1	1	-	-	-	-	-	
Co-55	1	-	-	-	-	1	-	
S-35	1	-	-	-	-	-	1	
Sn-117m	1	-	-	-	-	1	-	

Radionuclides used in Current BER-supported Research (32-37 of 38)

Frequency of use

RN	#PIs	daily	2-3/wk	1/wk	2-3/mo	1/mo	2-6/yr	Made on site
Re-186	1	-	-	-	-	-	1	
Pb-212	1	-	-	-	-	-	1	
Bi-212	1	-	-	-	-	-	1	
Rh-105	1	-	1	-	-	-	-	1
Cu-60	1	-	-	-	1	-	-	1
Cu-61	1	-	-	-	1	-	-	1
Cu-67	1	-	-	-	-	-	1	1

“Which of your currently utilized RNs would you use more often if it were more available”

RN	# of Pls	RN	# of Pls
I-123	5 (cost factor)	Cu-67	1
Cu-64	4	Ga-68	1
I-124	3	Sn-117m	1
Re-188	3	Co-55	1
At-211	3	Pm-149	1
Tc-99m	3	Bi-212	1
F-18	2	Re-186	1
Br-76	2	Y-86	1
Bi-213	2	Ga-66	1
Lu-177	2		

“What other RNs would you use in current projects if it were routinely available at reasonable cost?”

RN	# of PIs	RN	# of PIs
I-124	7	Br-80m	1
Bi-213	4	Br-77	1
Cu-64	3	Bi212	1
Br-76	3	Co-55	1
I-123	2 (at lower cost)	Au-199	1
At-211	2	S-35	1
Re-188	2	Re-186	1
I-125	1 (?cost)	Ga-68	1
In-111	1 (at lower cost)	Ac-225	1
Ho-166	1	Tc-96	1
Cu-62	1		

“..Other RNs you would use in upcoming projects if they were more available at reasonable cost?”

RN	# of PIs	RN	# of PIs	RN	# of PIs
Cu-64	7	In-111	2	Au-199	1
I-124	6	Sn-117m	2	S-35	1
Bi-213	5	Pm-149	2	Ga-67	1
At-212	4	Co-55	2	Ga-68 g	1
Br-76	4	Fe-52	2	Tb-149	1
Bi-212	3	F-18	2 (cost?)	Sc-47	1
I-123	3 (cost)	K-40 nca	1	Tc-95m	1
Lu-177	2	Br-77	1	Hg-195	1
Cu-67	2	Ho-166	1		

Summary of Survey Results-1

- *38 BER grant recipients of DOE-BER grant use 38 different radionuclides in their current research.*
- *18 centers produce some of the RNs used in their research but only 5 produce all of the positron emitters they need*
- *The most frequently used radionuclides are those that are most commonly available:*

Tc-99m, I-125, F-18, I-131, In-111, C-11, I-123, Re-188, Lu-177, Y-90

- *The question about prioritization of radionuclides currently in use did not yield consistent answers due to the diversity of projects by the investigators.*

Summary of Survey Results -2

- *RNs that would be used more often in current research if they were more readily available include primarily:*

Long T1/2 positron emitters, alpha emitters and several beta emitters used in therapy

- *RNs desired most frequently for current and upcoming projects:*

I-124, Bi-213, Cu-64, Br-76, I-123, At-211,

with I-124, Bi-213, Cu-64 clearly as front-runners